

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Elliot Energy Systems

Florida Manufacturing Extension Partnership

Elliott Energy Systems Prepares For The Future

Client Profile:

Elliott Energy Systems, a subsidiary of Ebara Corporation of Japan located in Stuart, Florida, was formed in September 1996 to continue research and development of powerful and practical microturbine technology. The facility in Stuart has been involved in research, design, and limited production of microturbine generators and currently has just under 100 employees. Electrical power demand is increasing throughout the world, particularly in emerging countries. The concept of on-site or distributed power generation will provide a solution for those countries that do not have a reliable national power transmission grid. Elliott Energy Systems' goal is to provide that solution and be considered by its customers as the world's best microturbine manufacturer.

Situation:

Elliott Energy Systems is in the final stages of commercializing an 80 kilowatt natural gas powered microturbine generator set. During this process, the company has faced a few major challenges. To supply a rapidly growing worldwide market, the company plans to increase its output by a factor of 15 over the next 18 months. Its employee count will double and a new, larger facility will become necessary. Elliott Energy Systems wanted to know exactly how to continuously scale resources, manpower, and equipment to meet its increasing production goals. The company also wanted to know optimal production flow at all production levels, as well as the ideal size ratio for a new building. For help, Elliott Energy Systems contacted the Florida Manufacturing Extension Partnership (Florida MEP), a NIST MEP network affiliate.

Solution:

In order to reliably predict and plan resource allocation for each stage of increased production, Florida MEP developed detailed and sophisticated computer models to simulate each stage of production. The simulation--built using in-depth production and statistical data--showed the ideal use of manpower, space, process flow, and equipment utilization at every production level. The simulation model even showed exactly which operators to crosstrain in order to maximize productivity. To complete the project, Florida MEP facilitated detailed discussions with company officials to develop ideas of final layouts for the new facility. Incorporating Elliott Energy Systems' ideas, Florida MEP

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presented six different plant layouts that allowed Elliott Energy Systems to meet its objectives.

Results:

Increasing annual output by \$16.8 million within the year.

Adding almost 100 employees.

Investing \$3- to \$5 million in a new building.

Investing over \$500,000 in new equipment.

Testimonial:

"The Florida Manufacturing Extension Partnership gave us exactly what we wanted and needed within a very tight and demanding timeframe. Florida MEP gave us future process and flow information, along with workforce and physical layout designs based on in-depth scientific and statistical analysis. We were extremely happy with the work done by Florida MEP and would highly recommend them."

David Jefferiss, Chief Operating Officer